

**WATER TRANSFER WORKING GROUP PROJECT DESCRIPTION**

2016-64

<b>APPLICATION NO./COURT CLAIM NO.:</b> <b>Court Claim No. 0525 / Court Claim No. 00366</b>		
<b>APPLICANT NAME</b>  Washington State Department of Transportation (WSDOT)	<b>CONTACT NAME</b>  Debi Freudenthal, South Central Region Environmental Office Brian White, Acting Regional Administrator	<b>TELEPHONE NO.</b>  509-577-1923  509-577-1700
<b>WATER RIGHT HOLDER'S NAME (if different)</b>		<b>EMAIL:</b> Freuded@wsdot.wa.gov; WhiteB@wsdot.wa.gov

<b>DATE OF APPLICATION:</b> February 2016	<b>PRIORITY DATE:</b> April 1, 1885 (#00525)/ May 24, 1884 (#00366)
<b>WATER SOURCE:</b> Rattlesnake Creek/Wilson Creek	<b>CROP:</b> Pasture/Hay
<b>INSTANTANEOUS QUANTITY:</b> 0.3 (00525)/ 1.75 cfs (#00366)	<b>ANNUAL QUANTITY:</b> 5 acre feet/year
<b>PERIOD OF USE:</b> April 1 – October 31	
Existing <b>PLACE OF USE:</b> <u>Claim 00525:</u> That portion of the W ½ SW ¼ of Section 2 lying westerly of the county road (Nile Road; EXCEPT the south 534 feet lying easterly of Carmack Parker Ditch. That portion of the E1/2 SE ¼ of Section 3 lying southerly of the county road (Nile Road). That portion of the NW¼NW¼NW¼ of Section 11 lying east of a flowing stream; ALL in T 15, R 15 EWM.  <u>Claim 00366:</u> Instream flows of Wilson Creek, Yakima River, Columbia River	<b>PURPOSE OF USE:</b> Instream Flow and mitigation for landscape and restoration area watering.
<b>IRRIGATION METHOD:</b> Flood	
<b>CONSUMPTIVE USE CALCULATION:</b>  Washington State Department of Ecology (Ecology) determined a consumptive use calculation of 113 AF/year (see Record of Examination, CS4-00366CTCLsb9@1) for Claim #00366.	
<b>NARRATIVE DESCRIPTION OF PROJECT:</b>  <u>Claim 00525.</u> Court Claim #0525 was confirmed in the Conditional Final Order issued in June 29, 1993 for the Yakima River, Subbasin No. 16, for 225 acre-feet/1.5 cfs for the irrigation of 75 acres. In 2007, Ecology issued a temporary change approval that included a determination of extent and validity of the water right which reduced the water right from 225 acre feet per year to 195. The temporary approval was issued to move the project forward due to its environmental benefits of not diverting Rattlesnake Creek. In October 2011, Ecology affirmed its 2007 extent and determination and Yakima Superior court granted a partition with WSDOT's portion totaling 45 AF/YR and 0.3 cfs. Also in October 2011, Ecology accepted WSDOT's temporary ten-year donation of the water right claim into the State Water Right Trust Program.  In 2012, WSDOT determined that the extensive vegetative damage from the landslide, channel excavation, road construction, etc., extensive replanting and restoration was needed. WSDOT received an Order Pendente Lite (OPL) in 2012 for this purpose, which expired in October, 2015. See Attachment 1.  In 2015, WSDOT applied for a temporary authorization to Ecology to use approximately five acre/feet/year (65 GPM) total water use through 2024 to support landscape and mitigation area plant establishment using two shallow wells and place of use (planting and restoration areas located within and adjacent to the Claim 0525 boundary). However, the purpose of the water right was not changed so WSDOT will use part of the unused portion of Claim 00366 to mitigate for the temporary use.  <u>Claim 00366.</u> This water right was confirmed in the Conditional Final Order issued in Subbasin No. 9 (Wilson-Nanum), dated April 17, 2006. During 2009 through 2011, WSDOT received approvals by the Yakima Superior Court, the Water Transfer Working Group (Applications 2009-20 and 2010-04) and Ecology (ROE CS4-00366CTCLsb9@1) to change the purpose and place of use of the original water right to instream flows through October, 2019. WSDOT and Ecology entered into a Memorandum of Agreement to hold this water right in the Trust Water Rights Program (TWRP) for ten-years. In 2011, WSDOT received mitigated temporary permit #S4-35264 from Ecology to divert water from Keechelus Lake through October 31, 2015. A portion of the instream flow water right was assigned to the USBR-Ecology Water Storage and Exchange Contract (#09XX101700) to support the Interstate 90 construction project adjacent to Keechelus Lake (i.e., dust control, embankment compaction, road materials and processing and equipment washout; and landscape /mitigation site watering) and/or future WSDOT construction or maintenance activities within the Yakima Basin. See attached 2010	

ROE.

In February 2015, WSDOT applied for a new temporary permit (Application #S4-35746) to continue the water needs of the I-90 Project through 2021 using the full 113 acre/feet Consumptive Use held in the TWRP. The new application modifies: 1) the place of use in the original temporary permit application to cover highway corridor project phases as they move east of Keechelus Lake (to Easton, WA), and 2) the months of use from May 1 through November 30 to accommodate potential longer construction seasons as they may occur. WSDOT will collaborate and update the Ecology-WSDOT agreement and pay USBR annual storage fees, as needed. In October 2015, the Water Transfer Working Group endorsed this request. In December, 2015, WSDOT modified the application to only use 60 AF/YR. This approval is pending.

Since WSDOT has established its mitigation bank using Claim #00366 which is already part of the USBR-Ecology Water Storage and Exchange Contract (#09XX101700), WSDOT requests use of Claim 00366 bank as mitigation for the State Route 410 Nile Landslide temporary water use.

**Table 1. Estimated Landscape Water Needs (acre-feet)**

Month	April	May	June	July	August	September	October	Total
Years: 2016-2024	0.5	0.5	0.75	1.0	1.0	0.75	0.5	5.0

See the attached map for additional information

### **WTWG Narrative and Checklist**

1. **Validity.** Both Claim 00525 and Claim 00366 are valid.
2. **Water budget neutrality.**
  - The temporary authorization is water budget neutral. If the temporary change did not occur, water would still be available at the existing and temporarily approved points of diversion.
  - The transfer is TWSA neutral. WSDOT withdrawal is less than the full water right and will not exceed the consumptive use amount of the water right. The remaining water will be dedicated to instream flow.
  - The temporary transfer will result in less consumptive use.
  - The temporary transfer will not result in detriment or injury to existing rights (RCW 90.03.380(1)).
3. **Timing and availability.** WSDOT completed the temporary donation to the Trust Water Right Program and associated agreement with Ecology who in turn, is part of USBR-Ecology Water Storage and Exchange Contract (#09XX101700).
4. **Impairment of instream flow.**
  - The temporary authorization will result in an increase to instream flow. Unused water will remain in the Trust program as instream flow.
  - The Yakima River water supply is measured at Prosser and Parker. Consumptive use will be metered and will not exceed the consumptive use amount of the Trust water right.
5. **Operational considerations.**
  - WSDOT's contractor will design the irrigation system based on the 5 acre feet of estimated annual water need. The contractor may seek a slight variation in the monthly consumptive use limits while maintaining the annual consumptive use allowed by the water right without impacts to other users or fish/aquatic species.
  - WSDOT's contractor will also not exceed the instantaneous demand and annual quantity established for the WSDOT water right.
  - The temporary authorization will not impact Yakima Project operations.
  - The two wells installed for this purpose will be decommissioned once performance measures for plant establishment are met, which is estimated to occur within 3 years of planting.
6. **For Transfers Between Surface Water and Ground Water.**
  - For A temporary change in 2007 was approved for the diversion to a ring well. No impairments were identified in that process. Since that time, water use and land ownership has changed drastically due to the landslide. There are less chances of impairment now than in 2007.
  - WSDOT completed a hydrologic analysis for the SR 410 Nile Landslide Reconstruct Route Project which was accepted for the OPL in 2012.
7. **Other considerations.**
  - The temporary authorization is in agreement with public policy. The SR 410 Project is an important infrastructure improvement.
  - Based on extensive environmental review, collaboration and acquisitions, the economic, social and environmental effects of completing the SR 410 project and the associated revegetation of a denuded area, the SR 410 Project will be highly positive.
  - The temporary authorization does not rely on return flow.

**WTWG Checklist**

<b>1. Validity</b>	<b>WSDOT Response</b>
Is there continued beneficial use history sufficient to ensure that the right has not been relinquished or abandoned?	<i>Yes</i>
Is it free of any “cloud” or claim on the title of the water right?	<i>Yes</i>
<b>2. Water Budget Neutrality</b>	
Is the transfer water budget neutral?	<i>Yes</i>
Is the transfer TWSA (Total Water Supply Available) neutral?	<i>Yes</i>
Does the transfer of the right result in equal or less consumptive use?	<i>Yes</i>
Can the transfer be made without detriment or injury to existing rights? (RCW 90.03.380(1))	<i>Yes</i>
<b>3. Timing and Availability</b>	
Temporary Transfers: If a seasonal transfer, can the transfer be implemented in the time remaining in the season?	<i>n/a</i>
Permanent Transfers: Is there a map of the fallowed land or discontinued use and can it be confirmed?	<i>n/a</i>
<b>4. Impairment of instream flow</b>	
Does the transfer cause no adverse change to instream flows?	<i>Yes</i>
Is all the water accounted for at Parker and Prosser (if applicable)?	<i>Yes</i>
<b>5. Operational Considerations</b>	
If the transfer relies on space in existing Reclamation storage, is storage capacity available?	<i>Yes</i>
Can the transfer be “bucketed”, with different rate and timing, without adverse impacts on other users and fish and other aquatic life?	<i>Yes</i>
Does the transfer have no impermissible impact on Yakima Project operations?	<i>Yes</i>
<b>6. For Transfers Between Surface Water and Ground Water</b>	
Can the hydrologic impacts of the transfer be accurately evaluated?	<i>Yes; no impacts</i>
<b>7. Other considerations</b>	
Is the transfer in agreement with public policy?	<i>Yes</i>
Is the transfer free of unacceptable secondary effects – economic, environmental, or cultural?	<i>Yes. The overall social environmental benefits of the SR 410 Nile Valley Reconstruct Route Project are extensive and significant, including the reconnection of a transportation route between eastern and western Washington and the preservation of over 80 acres of floodplain and river channel.</i>
Does the transfer not rely on return flow?	<i>Yes</i>



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

2016-64

**TRUST WATER RIGHT  
REPORT OF EXAMINATION**  
*Change of Purpose and Place of Use*  
WRTS File No.: CS4-00366CTCLsb9@1

PRIORITY DATE	WATER RIGHT NO.
May 24, 1884	Yakima Superior Court Claim No. 00366

NAME OF PARTY CONVEYING RIGHT TO TRUST WATER RIGHTS PROGRAM		
Washington State Department of Transportation – South Central Region		
ADDRESS/STREET	CITY/STATE	ZIP CODE
P.O. Box 12560	Yakima, WA	98909-2560

**TRUST WATER RIGHT ATTRIBUTES**

SOURCE		
Wilson Creek		
TRIBUTARY OF (IF SURFACE WATERS)		
Yakima River/Columbia River		
MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
1.75	N/A	350 Total: 113 Consumptive 237 Non-Consumptive

QUANTITY, TYPE OF USE, PERIOD OF USE

**For Instream Flow in the Primary Reach:**

1.75 cubic feet per second and 350 acre-feet per year from April 1 to October 31.

**For Instream Flow and mitigation in the Secondary Reach from April 1 to October 31 as follows:**

	Cubic Feet Per Second	Acre-Feet Per Year
May	0.37	11.1
June	0.47	24.4
July	0.58	33.4
August	0.49	26.7
September	0.33	15.1
October	0.18	2.3
<b>Total</b>		<b>113.0</b>

**HISTORIC POINT OF DIVERSION OR WITHDRAWAL**

APPROXIMATE LOCATION OF HISTORIC DIVERSION / WITHDRAWAL

840 feet south and 800 feet west from the center of Section 2, T. 17 N., R. 18 E.W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP	RANGE [E. or W.] W.M.	WRIA	COUNTY
NE¼SW¼	2	17 N.	18 E.	39	Kittitas
PARCEL NUMBER	LATITUDE	LONGITUDE		DATUM	

**AFFECTED REACHES – DESCRIPTION OF PLACE OF USE**

[See Attachment 1 for map of the trust water right location]

The **Primary Reach** begins at the historical point of diversion on Wilson Creek located 840 feet south and 800 feet west of the center of Section 2, being within the NE¼SW¼ of Section 2, T. 17 N., R. 18 E.W.M. and ends at a point on Wilson Creek approximately 810 feet south and 760 feet east of the center of Section 11, being within the NW¼SE¼ of Section 11, T. 17 N., R. 18 E.W.M. in the County of Kittitas, Washington.

If this instream flow right is being used as mitigation, there is no secondary reach. When this right is not being used as mitigation or other authorized uses, the surplus water is assumed to be available in the Secondary Reach as described below:

The **Secondary Reach** begins at a point on Wilson Creek approximately 810 feet south and 760 feet east of the center of Section 11, being within the NW¼SE¼ of Section 11, T. 17 N., R. 18 E.W.M. and continues past the confluence of Wilson Creek and the Yakima River, and continues past the confluence of the Yakima River and the Columbia River and ending at a point located at the confluence of the Columbia River and Pacific Ocean at River Mile 0 in Section 18, T. 9 N., R. 11 W.W.M., Pacific County, Washington.

**TRUST WATER RIGHT TERM**

BEGIN DATE	END DATE
October 29, 2009	October 31, 2019

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**PROVISIONS**


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The Department of Ecology must manage this trust water right effectively to mitigate for impacts to the Total Water Supply Available and flow reductions that adversely affect fish. Any portion of this trust water right that is assigned to the 2009 Exchange Contract No. 09XX101700 between the Department of Ecology and the U.S. Bureau of Reclamation will be managed in accordance with that contract and its associated review procedures.

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**FINDINGS OF FACT AND ORDER**


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Upon reviewing the investigator's report, I find all facts relevant and material to the subject application have been thoroughly investigated. Furthermore, I find the change of water right as recommended will not be detrimental to existing rights or detrimental to the public interest.

Therefore, I ORDER the requested change of place and purpose of use under Trust Water Right Application No. CS4-00366CTCLsb9@1, be approved subject to existing rights and the provisions specified above.

This Decision may be appealed pursuant to RCW 34.05.514(3), RCW 90.03.210(2), and Pretrial Order No. 12 entered in *State of Washington, Department of Ecology v. James Acquavella, et al.*, Yakima County Superior Court No. 77-2-01484-5 (the general adjudication of surface water rights in the Yakima River Basin). The person to whom this Decision is issued, if he or she wishes to file an appeal, must file the notice of appeal with the Yakima County Superior Court **within thirty (30) days of receipt of this Decision**. Appeals must be filed with the Superior Court Clerk's Office, Yakima County Superior Court, 128 North 2<sup>nd</sup> Street, Yakima WA 98901, RE: Yakima River Adjudication. Appeals must be served in accordance with Pretrial Order No. 12, Section III ("Appeals Procedures"). The content of the notice of appeal must conform to RCW 34.05.546. Specifically, the notice of appeal must include:

- The name and mailing address of the appellant;
- Name and address of the appellant's attorney, if any;
- The name and address of the Department of Ecology;
- The specific application number of the decision being appealed;
- A copy of the decision;
- A brief explanation of Ecology's decision;
- Identification of persons who were parties in any adjudicative proceedings that led to Ecology's decision;
- Facts that demonstrate the appellant is entitled to obtain judicial review;
- The appellant's reasons for believing that relief should be granted; and
- A request for relief, specifying the type and extent of relief requested.

The "parties of record" who must be served with copies of the notice of appeal under RCW 34.05.542(3) are limited to the applicant of the decision subject to appeal, Ecology and the Office of the Attorney General.

All others receiving notice of this Decision, who wish to file an appeal, must file the appeal with the Yakima County Superior Court within **thirty (30) days of the date the Order was mailed**. The appeal must be filed in the same manner as described above.

Signed at Yakima, Washington, this 2nd day of November 2010.

  
 Mark Schuppe, Section Manager  
 Water Resources Program  
 Central Region Office

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 INVESTIGATOR'S REPORT
 

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**BACKGROUND****Description and Purpose of Proposed Change**

Washington State Department of Transportation (WSDOT) filed Application No. CS4-00366CTCLsb9@1 on October 29, 2009. The intent of the application is to transfer a water right into the State of Washington's Trust Water Right Program to mitigate for the WSDOT's water use on the I-90 Snoqualmie Pass East Construction Project. The water right proposed for trust is Yakima Superior Court Claim No. 00366 (Table 1).

WSDOT filed two applications for temporary water rights that would be mitigated by Court Claim No. 00366. Application No. S4-35264 requests the right to divert water from Keechelus Lake, a water body adjacent to I-90 for construction purposes on the I-90 Snoqualmie Pass East Project. The I-90 Project is further described in detail at: <http://www.wsdot.wa.gov/projects/i90/snoqualmiepasseast/hyaktokeechelusdam/>.

Application No. S4-35263 requests the right to divert water from Wilson Creek to provide the water needed to establish wetland plantings at the original place of use. To mitigate for impacts associated with these new uses, WSDOT purchased Court Claim No. 00366 and intends to place the right into the State's Trust Water Program for a period of 10 years. WSDOT proposes to consumptively use water up to the amount that was used historically used under Court Claim No. 00366 and can be transferred to trust under this authorization. Only that which has been consumptively used in the last five years is available to be placed in trust for the purposes of instream flows and mitigation. Any portion of the right not needed for mitigation will be available to benefit instream flows within the Yakima Basin.

Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, Pacific Groundwater Group (PGG) and Anchor QEA LLC, prepared this report under contract to Washington's Department of Ecology (Ecology). PGG reviewed all available documents pertaining to this and other related applications, including site conditions, hydrogeological considerations, historical water use, and standing of existing rights.

**Table 1**  
**Summary of Existing Attributes and Proposed Changes to Court Claim No. 00366**

Attributes	Documented	Proposed
Name	Lakeside Town Center Associates, LLC (formerly Richard A. Snowden)	WA State Dept. of Transportation
Priority Date   Date of Application for Change	May 24, 1884	October 29, 2009
Instantaneous Quantity	1.75 Cubic feet per second	Same
Annual Quantity	350	Same
Source	Wilson Creek	Same
Point of Diversion/ Withdrawal	840 feet south and 800 feet west of the center of Section 2, within the NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 2, T. 17 N., R. 18 E.W.M.	N/A
Purpose of Use	Irrigation of 35 acres	Instream Flow and Mitigation
Period of Use	April 1 through October 31	Same
Place of Use	That portion of the NE $\frac{1}{4}$ of Section 11, T. 17 N., R. 18 E.W.M, known as Tax Lot 27 and a portion of the N $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 11, T. 17 N. R. 18 E.W.M. both tracts west of the right-of-way of the Burlington Northern Railroad	Instream flows in Wilson Creek and the Yakima and Columbia Rivers.

### Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change in purpose and place of use:

#### Public Notice

- Notice of the proposed transfer of this right into the Trust Water Program, as well as the request for Temporary Use Permit was published in the Northern Kittitas County Tribune and the Daily Record of Ellensburg on January 28<sup>th</sup> and February 4<sup>th</sup>, 2010. No protests were received as a result of the publication.

#### State Environmental Policy Act (SEPA)

- Environmental review is required under the National Environmental Policy Act (NEPA), which was signed in January 1970, as the “national charter for protection of the environment”. Washington’s State Environmental Policy Act (SEPA), adopted in 1971, directs state and local decision makers to consider the environmental consequences of their actions.
- NEPA and SEPA both require preparation of an environmental impact statement (EIS) when a project could have a significant effect on the environment. Both allow review of possible project alternatives or mitigation measures that will reduce a project’s environmental impact.
- The I-90 Snoqualmie Pass East Project must comply with both NEPA and SEPA. Review under NEPA is required since the project will require federal permits and approvals, use of federal lands, and possibly federal funding. Review under SEPA is required since the project is an action by a state agency, and will require permits from both state and local agencies. The scoping document is a combined NEPA and SEPA Final Environmental Impact Statement (Final EIS) and Section 4(f) Evaluation (Final EIS), which issued in August of 2008.

#### Water Resources Statutes and Case Law

- RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed if it would not result in harm or injury to other water rights.
- RCW 90.42.100 authorizes Ecology to use the trust water rights program for water banking purposes like mitigation.
- This application qualifies for expedited processing under WAC 173-152-050(3)(a) whereby water right change applications may be processed prior to applications submitted at an earlier date if the project is water budget neutral and will enhance or protect the quality of the natural environment. In November of 2009, Ecology received letters of support for this project from Washington State Department of Fish and Wildlife, Cascade Land Conservancy, National Oceanic and Atmospheric Administration, Kittitas County Community Development Services, and the United States Fish and Wildlife Service. The I-90 Project will result in significant environmental benefits and enhancements due to major modification to the landscape, with an emphasis on improving watershed connectivity objectives into the design of the project. Seven drainages will undergo channel modification that are intended to restore and enhance stream and floodplain functions, including improved fish passage and access to habitat. Other environmental benefits of the project include:
  - Acquiring and preserving 263 acres in the Gold Creek Watershed
  - Preserving approximately 93 acres of riparian or wetland buffer areas
  - Restoring channel migration and surface and subsurface flow paths
  - Restoring some five acres of stream channel, riparian zones and upland connectivity areas
  - Restoring or creating approximately 11 acres of wetland
  - Building stream crossings – including replacing or upgrading culverts to improve fish passage
  - Building bridges for wildlife undercrossing
  - Improving stormwater management to improve water quality

## INVESTIGATION

2016-64

### History of Water Use

Water use began on the property sometime in the early 1900's. The claimant's land is riparian to Wilson Creek and rights established under the riparian doctrine have a priority date of when steps were first taken to sever the land from Federal ownership. This land was originally conveyed by the Federal government to the railroad company for construction of the railroad – any land not used was then sold. The priority date of former railroad lands in Subbasin No. 9 is May 24, 1884.

The Report of Referee stated that Surface Water Claim No. 043215 did not match what Mr. Snowden was asserting in the Court proceedings. The Court directed him to amend his claim with Ecology. Mr. Snowden's filing with the Water Rights Claims Registry resulted in Ecology issuing *Order No. 03WRHQ-5621*, that accepted Mr. Snowden's changes to the annual quantity of water and place of use.

On October 28, 2003, Mr. Snowden filed an application with the Kittitas County Conservancy Board to change the point of diversion (POD). The application proposed the POD be changed from its original location to a POD 3,000 feet downstream along Wilson Creek. The change would replace the unscreened gravity diversion and unlined ditch with a screened pump and associated piping. This change was approved by the Kittitas County Water Conservancy Board in July 2004, but reversed by Ecology in September 2004, because the location of the original POD had not been settled by Yakima County Superior Court. The Court recognized and confirmed Ecology's amendments in its *Memorandum Opinion and Order* signed June 15, 2005. In April of 2006, the change application was cancelled and Court Claim No. 00366, in Subbasin No. 9 (Wilson-Naneum), was confirmed to Richard Snowden by Conditional Final Order in April of 2006, for the attributes listed in Table 1.

The Supplemental Report of the Referee stated that the Snowden property had been irrigated continuously for 90+ years. The method of delivering the water and land use had changed over the years, resulting in modifications to the conveyance system.

In 2008, the property was purchased by Lakeside Town Center Associates, LLC. WSDOT purchased 100 acre-feet of consumptive use water from Lakeside, as evidenced by a Special Warranty Deed signed on October 28, 2009. A separate agreement between Lakeside and WSDOT states that final payment will be made when Ecology has determined the amount available for transfer.

### Site Visit

In February of 2010, Adam Hill of Anchor QEA LLC performed a site visit on the Snowden property along Wilson Creek. A pump was found at the proposed location described in the cancelled change application. Aerial photographs were used to determine the new pump station was constructed sometime between October 2003 and August 2005. Aerial photographs also appear to show that the unlined ditch used in the original claim was in use in 2000 and 2003, and not in use in 2005 and 2006 when the new POD was utilized. The original POD is located 840 feet south and 800 feet west of the center of Section 2, within the NE $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 2, T. 17 N., R. 18 E.W.M., and marks the beginning of the primary reach for the proposed trust water right.

Available aerial photography from 2000, 2001, 2003, 2004, 2005, and 2006, confirmed that Court Claim No. 00366 was exercised during each of these years. In 2005 approximately 44 acres were being irrigated.

### Proposed Use

WSDOT proposes to change the purpose of use from irrigation to instream flow to be made available to mitigate for out-of-stream uses. WSDOT requests that Ecology maintain the right in the State of Washington Trust Water Right Program (TWRP) until 2019 as outlined and conditioned in a Trust Water Right Agreement between Ecology and WSDOT.

WSDOT intends to use the above mentioned trust water right to mitigate for water use for construction related purposes – primarily dust control (see Temporary Permit No. S4-35264 for additional discussion). WSDOT intends to use Keechelus Lake as a source of supply. Construction activities would produce fugitive dust due to wind erosion and by operating construction equipment on exposed earth surfaces. WSDOT has also arranged for one acre-foot of water to be used for riparian restoration along Wilson Creek (see Temporary Permit No. S4-35263 for additional discussion).

### Other Rights Appurtenant to the Place of Use

There are no other water rights appurtenant to the existing place of use.

### Quantities Eligible for Transfer

The Conditional Final Order was issued for Court Claim No. 00366 on December 4, 2006. Since the CFO was issued within the last five years, the 350 acre-feet per year (ac-ft/yr) cited by the Court were used for the tentative determination of the extent and validity of the right. However, Ecology has identified the consumptively used portion of the right as reference for what may be available for mitigation.

### Trust Water Right Calculations

Transferring water rights to trust does not protect rights that have not been fully exercised. Water right quantities transferred to the Trust Water Program shall not exceed the extent to which the water right was exercised during the five years preceding the application, nor may the transferred portion plus the remaining portion exceed the extent to which the water right was exercised during the previous five years (RCW 90.42.080).

In 2006, the Court confirmed a maximum flow rate of 1.75 cubic feet per second (cfs) and an annual quantity of 350 ac-ft/yr at the historic POD. These quantities identified for the total use are available to be placed into trust in the primary reach. However, the quantities available for trust in the secondary reach intended to be used for mitigation are based on historic consumptive water use.

A preliminary consumptive use assessment for the Snowden site was provided by Lisa Pelly of the Washington River Conservancy,<sup>1</sup> and verified by PGG. The calculations are based on the Washington Irrigation Guide (WIG). Ms. Pelly did not visit the site and the consumptive use calculations in her memo were based on crop assumptions for clover, as indicated to the owner's representative.

Water use is further supported by aerial images taken in 2000, 2001, 2003, 2004, and 2006. These photos show the irrigation of at least 35 acres within a place of use that encompasses approximately 48 total acres, non-irrigated areas include structures on the site as well as access roads.

No metering records were available for this water right; therefore, water use was estimated using the WIG for the Ellensburg area. The Crop Irrigation Requirement (CIR) for the cultivation of clover at the project site amounts to 33.14 inches per irrigated acre. For 35 acres the CIR is 96.66 acre-feet. Table 4 shows the approximate monthly distribution of that water duty over the irrigation season.

According to Ms. Pelly, the irrigation system is a "reel-type sprinkler system," also referred to as a "Big Gun". Ecology's GUID-1210<sup>2</sup> indicates the efficiencies for a system of this nature ranges from 60 to 85 percent. Since the original irrigators of this property assert a significant factor of water loss due to both high winds and poor soil holding capacity, we have used 60 percent efficiency. We note that the Court awarded a total water duty of 350 ac-ft/yr, which would indicate that the majority of this water became return flow and was non-consumptively used. This is consistent with the referee's report that indicates the ground being coarse and cobbled and needing frequent watering due to low holding capacity.

**Table 3**  
**Total Crop Requirement Assuming Average Application Efficiency**

Crop Irrigation Requirement (af)	Application Efficiency (%)	Total Irrigation Requirement (af) (CIR/Eff.)	Total Evaporated (%)	Total Consumed (af) (TIR*%Evap)
96.66	60	161.1	10	113

**Table 4**  
**Crop Irrigation Requirement and Consumptive Use in the Secondary Reach**

	May	June	July	August	September	October	Total
Inches per acre (WIG)	3.24	7.16	9.81	7.83	4.46	0.64	33.14
Crop Irrigation Requirement (ac-ft/yr for 35 acres)	9.45	20.89	28.62	22.84	13.00	1.86	96.66
Estimated Crop Consumptive Flow Rate (cfs)	0.37	0.47	0.58	0.49	0.33	0.18	
Total Consumptive Use (ac-ft/yr)	11.1	24.4	33.4	26.7	15.1	2.3	113*

\* Proposed temporary water use is assumed to be fully consumptive. See Temporary Authorizations S4-35263 and S4-35264 for more information.

<sup>1</sup> Lisa Pelly and Dale Bennett. 2008. WSDOT Internal Memorandum; Subject: Preliminary consumptive use assessment of Wilson Creek/Snowden water rights. December 16, 2008. Contained in Attachment 5 of WSDOT I-90 Snoqualmie Pass East Project Trust Water Right Application.

<sup>2</sup> GUID 1210 is Ecology's Water Resources Program Guidance on *Determining Irrigation Efficiency and Consumptive Use*. This section is specifically referring to Table 1: Summary of Application Efficiency Ranges, Consumptive Use, and Return Flows. <http://www.ecy.wa.gov/programs/wr/rules/images/pdf/guid1210.pdf>

Since diversion records are not available Ecology looked to the Yakima Adjudication for a reasonable instantaneous quantity to assign to Court Claim No. 00366, that is available to be transferred. Unfortunately the Court did not specifically identify a per-acre duty, but in the Report of Referee the Court calculated a maximum water duty of 0.02 cfs for “domestic supply and large lawn and garden up to ½ acre”. Using this as a guide, an acre of irrigation would require up to 0.04 cfs. The 35 acres associated with Court Claim No. 00366 require a maximum instantaneous diversion rate of approximately 1.40 cfs, thus 1.75 is within a reasonable range for this system.

#### Trust Water Place of Use

The proposed place of use for the trust water right is instream in the primary and secondary reaches. Water that was historically diverted from Wilson Creek is proposed to remain in stream until October 31, 2019.

This trust water right will remain instream from the historic point of diversion on Wilson Creek and continuing seven miles to the confluence of the Yakima River, remaining instream in the Yakima River for approximately 147 miles to the confluence of the Columbia River, and remaining instream approximately 650 miles to the mouth of the Columbia River at the Pacific Ocean. During the irrigation season, when WSDOT uses this right for mitigation, the secondary reach will end at Parker Dam to ensure the Total Water Supply Available (TWSA) is not impaired.

#### Impairment Considerations

Only a water right which has been beneficially used may be transferred to trust. Additionally, any future uses by WSDOT that would be mitigated by this right are limited to the quantity that was consumptively used under the original right.

Impacts to other water right holders in the Yakima Basin must be considered as part of this change in the event that WSDOT uses Court Claim No. 00366 to mitigate for new uses from Lake Keechelus. Flow targets set by the System Operation Advisory Committee (SOAC) were created to protect the adjudicated instream flow water rights held by the Yakama Nation in association with their treaty fishing rights (which have a priority date of “time immemorial”). Potential impacts to the Total Water Supply Available and other water rights in the intervening 67.5 mile reach (between Keechelus Lake and the confluence of Wilson Creek and the Yakima River) were considered.

The largest diversions within the intervening reach are the Kittitas Reclamation District (KRD), West Side Irrigating Company (WSIC), Cascade Irrigation District (CID), and Ellensburg Water Company (EWC). The diversion for KRD is at Easton Diversion Dam and the diversions for the other three districts are located on the Yakima River between where the Teanaway River and Wilson Creek enter. During an average water year when the districts are not prorated the combined water rights for the districts are as shown in Table 6. For comparison, Tables 7 and 8 depict Yakima River flows in both drought years (2001 and 2005) and non-drought years (2006) at Easton and below the Teanaway River, respectively. These tables show that users in the intervening reach between Lake Keechelus and Wilson Creek have had water available even during the droughts of 2001 and 2005.

**Table 6**  
**Combined diversions for the KRD, WSIC, CID, and EWC when not prorated**

Time period	KRD Qi (cfs)	WSIC, CID, EWC Combined Qi (cfs)
Apr 1-20	1,297	355
Apr 20-Aug 31	1,297	380
Sep 1-30	1,297	355
Oct 1-15	1,297	247
Oct 15-31	0	97

Note: Water rights for KRD are fully prorable; a portion of WSIC’s water rights are prorable.

**Table 7**  
**Average Monthly Yakima River Flows at Easton**  
**(Calculated from EASW Station)**

Month	Combined Average Flow (cfs)		
	2001	2005	2006
April	420	283	383
May	233	243	320
June	336	261	291
July	899	324	259
August	1258	1350	230
September	209	325	208
October	205	183	209

**Table 8**  
**Average Monthly Yakima River Flows below the**  
**Teanaway River (Calculated from YUMW and**  
**TEAW Stations)**

Month	Combined Average Flow (cfs)		
	2001	2005	2006
April	1214	1512	no data
May	1369	1441	1270
June	1990	2765	2072
July	2989	3234	3432
August	2701	2986	3506
September	748	885	962
October	534	463	514

### Trust Water Management

In the event that Court Claim No. 00366 is accepted into the Trust Water Right Program, Ecology and WSDOT will enter into a Trust Water Right Agreement. This document will outline water use and the conditions of acceptance of the water right into trust. Management of the trust water right will include use of the water for mitigation for WSDOT's proposed temporary water rights.

Reclamation and Ecology cooperate in the management of trust water rights acquired for the purposes of instream flows, primarily under chapter 90.38 RCW and the Yakima River Basin Water Enhancement Program<sup>3</sup>. Ecology is primarily responsible for management of the tributary acquisitions, and Reclamation is responsible for management of the mainstem diversions and target flows at selected locations. Cooperation between Reclamation and Ecology is required to manage trust water rights created in basin tributaries and on the mainstem. Reclamation manages the Yakima Project to meet its contractual obligations to water users and to meet environmental and fisheries targets identified in federal legislation.

During "flip flop", a project operating mode designed to comply with a 1980 Federal Court Order (the Quackenbush Order), Yakima project operations are significantly altered from normal operations. The river reaches below Keechelus, Kachees, and Cle Elum reservoirs are set to lower flows to improve the survival of spawning Chinook salmon species, incubation of their eggs, and to retain manageable amounts of water in the project reservoirs over the winter. Winter fish targets are designed to maintain flows after September 1 over spawning locations below Easton Lake and Cle Elum Lake dams and extending downstream to the Yakima River's confluence with the Teanaway River. Further reductions in flow during this time period would adversely impact fisheries.

In 2009, Ecology and Reclamation entered into a water exchange contract No. 09XX101700 that allows Ecology to request assignment of trust water rights to the contract. The contract is limited to 1000 acre-feet and has a term of 40 years. If Reclamation accepts assignment of a trust water right, it will hold the water in any empty reservoir space available and then deliver the stored water at a later time to the location(s) Ecology identifies. Ecology anticipates using the contract to store portions of the DOT trust water rights, when reservoir space is available for release to offset impacts to mainstem flows in the Easton to Thorp reach of the Yakima River after the onset of flip-flop. In addition to any statutory public notice required by the water code for new permits, each contract assignment will be subject to the ESA consultation protocols and the notice procedures contained in the contract and its appendices.

### Public Interest Considerations

No protests were received as a result of the public notice or SEPA Environmental Review. The proposed change is not a detriment to the public interest. Exercising the trust water right for instream flows in the affected reaches from the historic point of diversion on Wilson Creek continuing downstream. In addition, the I-90 project will provide significant environmental and traffic benefits to the public.

### CONCLUSIONS

The author finds that the water right confirmed under Court Claim No. 00366 is a valid right and is eligible for change in accordance with RCW 90.03.380, 90.38 and 90.42. Approval of Change Application No. CS4-00366CTCLsb9@1, as provisioned above, will not cause impairment of existing water rights, will not enlarge the original water right, and will not be detrimental to public interest.

<sup>3</sup> Bureau of Reclamation, U.S. Department of the Interior. "Yakima River Basin Water Enhancement Project, Washington, Final Environmental Impact Statement." 1999.

RECOMMENDATIONS

2016-64

Based on the above investigation and conclusions, I recommend the request for change to purpose and place of use be approved in the amounts and within the limitations listed below.

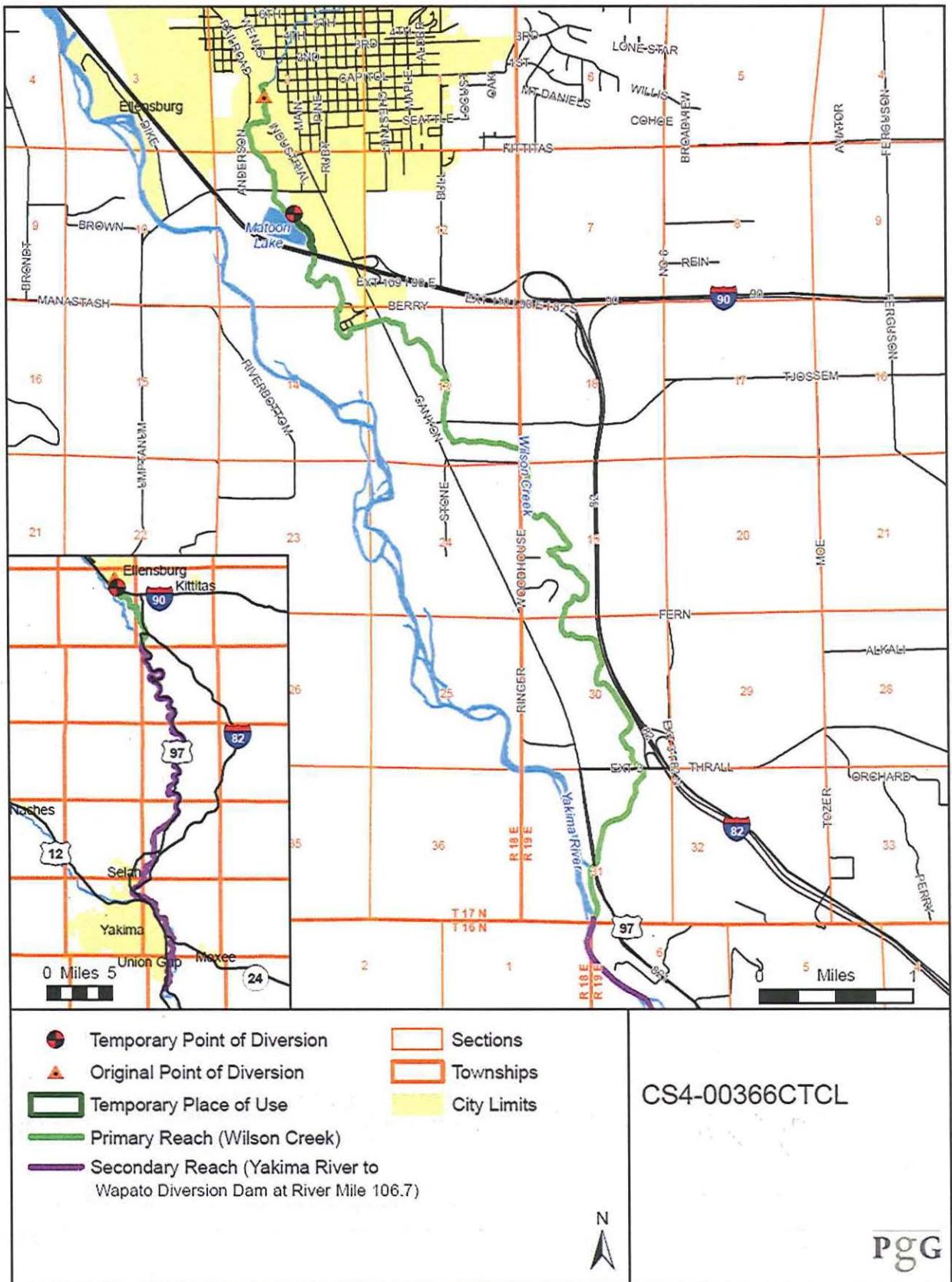
**Trust Water Right Attributes**

The maximum volume of 1.75 cubic feet per second, 350 acre-feet per year, shall be held in the Trust Water Right Program until 2019 for the purposes of instream flow and mitigation from April 1 to October 31, within the limitations described on page 1, and subject to the provisions beginning on page 2 of this Report of Examination.

Report by: Jill E Van Hulle November 2, 2010  
Jill Van Hulle, Pacific Groundwater Group Date

Reviewed by: Kelsey Collins 11/1/10  
Kelsey Collins, Water Resources Program Date

ATTACHMENT



CS4-00366CTCL



# ATTACHMENT #1

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STATE OF WASHINGTON  
YAKIMA COUNTY SUPERIOR COURT

IN THE MATTER OF THE DETERMINATION  
THE RIGHTS TO THE USE OF THE  
SURFACE WATERS OF THE YAKIMA  
RIVER DRAINAGE BASIN, IN  
ACCORDANCE WITH THE PROVISIONS OF  
CHAPTER 90.03, REVISED CODE OF  
WASHINGTON,

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Plaintiff,

vs.

JAMES J. ACQUAVELLA, et al.,

Defendants.

NO. 77-2-01484-5

ORDER *PENDENTE LITE*

RE: WSDOT PETITION FOR  
TEMPORARY CHANGE IN PURPOSE,  
POINT OF DIVERSION AND PLACE OF  
USE FOR A PORTION OF

CLAIM NO. 0525

SUB-BASIN NO. 16  
(Upper Naches)

*petition*  
~~THIS MATTER~~ came before the Court on the ~~stipulation~~ of the parties hereto being  
the State of Washington, Department of Transportation (WSDOT) by and through its attorneys  
Robert M. McKenna, Attorney General, and Guy M. Bowman, Assistant Attorney General;  
and ~~\_\_\_\_\_ appearing by and through \_\_\_\_\_~~  
~~\_\_\_\_\_ ; and the parties having stipulated to this Order~~ and the Court being advised in  
the premises; **NOW, THEREFORE,**

**IT IS SO ORDERED, ADJUDGED AND DECREED** as follows:

1. That the subject water right was claimed by Mr. Boyd Brown under Court  
Claim No. 0525. Said water right, as described in the Report of Referee Re: Sub-

1 basin No. 16 (Volume 9), and subsequently confirmed by the Court pursuant to  
2 its April 8, 1993, Conditional Final Order ("CFO") for Sub-basin No. 16  
3 (Upper Naches), AS MODIFIED BY this Court's Order dated October 13,  
4 2011 (the "Water Right"), is as follows:

5 Claimant: Boyd A. Brown

6 Court Claim No.: 0525

7 Certificate Number: S4-83443-J

8 Sub-Basin: No. 16, Upper Naches

9 Source: Rattlesnake Creek

10 Use: Irrigation of 53 acres

11 Period of Use: April 1 through October 31

12 Quantity: 1.5 cubic feet per second, 195 acre-feet per year

13 Priority Date: April 1, 1885

14 Point of Diversion: 300 feet south and 1050 feet east of the center of Section 3,  
15 within the NW ¼ SE ¼ of Section 3, T. 15 N., R. 15  
E.W.M.

16 Place of Use: That portion of the W ½ SW ¼ of Section 2 lying westerly of the  
17 county road (Nile Road); EXCEPT the south 534 feet lying  
18 easterly of the Carmack Parker Ditch. That portion of the E ½  
19 SE ¼ of Section 3 lying southerly of the county road (Nile  
Road). That portion of the NW ¼ NW ¼ NW ¼ of Section 11  
lying east of a flowing stream; ALL in T. 15 N., R. 15 E.W.M.

- 20 2. The original Place of Use, located in Yakima County, was subsequently divided by  
21 Mr. Brown into six (6) contiguous parcels. Pursuant to the October 2011 Order,  
22 the Confirmed Water Right was partitioned and divided by stipulation between the  
23 current owners, including Petitioner WSDOT. As set forth in the Order, WSDOT  
24 acquired the water right associated with three (3) of the six (6) parcels (the former  
25 Vian water right, the former Rose water right and the former Stine water right).  
26

1 3. As set forth in the October 13, 2011 Order, WSDOT is the rightful owner of a portion  
2 of the Confirmed Water Right in the total amount as follows:

3 45 af/y

4 .3 cfs

5 4. In October of 2011, the Washington State Department of Ecology (WSDOE) accepted  
6 WSDOT's temporary ten (10) year donation of its portion of the Confirmed Water  
7 Right (45 af/y, .3 cfs - comprising the former Vian water right, the former Rose water  
8 right and the former Stine water right) into the State's Water Right Trust Program. In  
9 connection with the work to be performed as outlined in 5. below, WSDOT seeks to  
10 take a portion of its Confirmed Water Right out of the Water Trust Program. The right  
11 which WSDOT will take out of the Trust Program is the former Vian water right, which  
12 consists of 11 acres, <sup>21992</sup>~~22~~ cfs and 33 af/yr. The former Rose water right and the former  
13 Stine water right will remain in the Trust Program, along with the remainder of the  
14 former Vian water right, 28 af/yr and <sup>21992</sup>~~22~~ cfs.

15 5. In connection with its restoration work associated with the repair of SR 410/Nile Valley  
16 Road, WSDOT seeks to change the place of use, purpose of use and point of diversion  
17 in connection with its use of up to five (5) af/y total water use for up to three (3)  
18 irrigation seasons (ending in October of 2015) to support landscaping, mitigation area  
19 plant establishment, dust control, and embankment compaction.

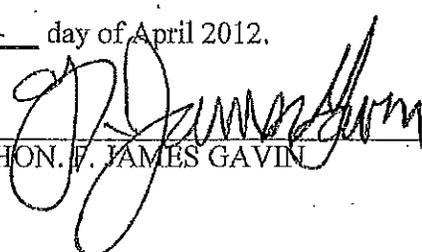
20  
21 THAT THE TEMPORARY CHANGE IN PLACE OF USE, CHANGE IN PURPOSE  
22 AND CHANGE IN THE POINT OF DIVERSION FOR UP TO 5 ACRE-FEET/YEAR  
23 <sup>21992</sup>~~(22~~ CFS) OF WSDOT'S PORTION OF THE SUBJECT WATER RIGHT UNDER  
24 COURT CLAIM NO. 0525 IS AS FOLLOWS:  
25  
26

- 1 6. **Change in Purpose of Use:** For landscape watering, plant restoration, dust control,  
 2 and embankment compaction along SR 410/Nile Valley Road.
- 3 7. **Change in Period of Use:** April 1 – October 31
- 4 8. **Change in Place of Use:** SR 410 Reconstruction area between Mileposts 107.4 and  
 5 108.5, and mitigation site locations, all located within portions of Sections 2, 3, 10 and  
 6 11, Township 15 North, Range 15 East, W.M, as indicated in Ex. 1 hereto.
- 7 9. **Change in Point of Diversion:** Two (2) shallow wells: (1) along the east side of the  
 8 Naches River on the upland terrace of SR 410 and the river; (2) on the west side of the  
 9 Naches River in a low flood plain area, as indicated in Ex. 1 hereto.
- 10 10. **Quantity:** The total quantity subject to this Order is **5 af/yr**, and instantaneous flow ~~of~~ **2192**  
 11 (cfs), according to the following table:—

Quantity transferred	April	May	June	July	August	September	October
5 acre feet/year							
Acre-feet	0.71	0.71	0.71	0.71	0.71	0.71	0.71
cfs	.22	.22	.22	.22	.22	.22	.22

17 ~~11.~~ This order is effective when WSDOT takes 5 af/yr portion of the former Vian  
 18 water right out of the Trust Program and for the 2012 - 2015 irrigation seasons only or for the  
 19 pendency of the adjudication, whichever period is shorter. This approval does not set a  
 20 precedent for water transfers in future years. Approval shall not be used as evidence of, nor  
 21 waive any argument concerning, future proposed permanent or temporary transfers under  
 22 either applicable federal law or contract or state law, including RCW 90.03.380.

23 DONE IN OPEN COURT this 12 day of April 2012.

24   
 25 HON. F. JAMES GAVIN  
 26

1 Presented by:

2 ROBERT M. MCKENNA  
3 Attorney General

4 

5 GUY M. BOWMAN, WSBA# 29214  
6 Assistant Attorney General  
7 Attorneys for MOVANT  
8 STATE OF WASHINGTON  
9 DEPARTMENT OF TRANSPORTATION  
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**Technical Memorandum**  
**Hydrogeologic Analysis of Irrigation Wells Proposed for  
the SR 410 Nile Landslide Reconstruct Route Project**

Work Order XL 3811

Rob Schanz, R.G., LHG  
WSDOT Environmental Services  
Hydrology Program

January 2012



Washington State Department of Transportation  
Environmental and Engineering Service Center  
Environmental Services Office

# Hydrogeologic Analysis of Irrigation Wells Proposed for the SR 410 Nile Landslide Reconstruct Route Project

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SR 410 Nile Valley Hydrogeologic Analysis

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**SR 410 Nile Valley Hydrogeologic Analysis**

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## SR 410 Nile Valley Hydrogeologic Analysis

### Introduction and Background

The Washington State Department of Transportation (WSDOT) is proposing to install two wells to irrigate riparian and wetland restoration sites for the SR 410 Nile Valley Landslide Reconstruct Route project. This project will reconstruct portions of SR 410 that were destroyed during the 2009 Nile Valley Landslide between mileposts (MP) 107.4 and 108.5. WSDOT is installing riparian and wetland plants on both sides of the adjacent Naches River floodplain as mitigation for project impacts.

Two wells will be installed to irrigate plants while they are becoming established (Figure 1). Well 1 will be located on the left/east side of the Naches River on an upland terrace between SR 410 and the river. Well 2 will be located on the right/west side of the river in a low floodplain area. The two wells combined are anticipated to withdraw about three acre-feet per year. Pumping rates will range between 20 and 60 gallons per minute (gpm) for each well.

WSDOT plans to obtain a temporary authorization for water withdrawal from these wells utilizing an existing upstream surface water right on Rattlesnake Creek (Figure 1). WSDOT owns a 45 acre-feet per year portion of Claim 0525 from the properties that were purchased after the slide. Rattlesnake Creek enters the Naches River about 2000 feet upstream of the project area.

This report analyzes hydrogeologic conditions near the wells and assesses potential for impairment of existing groundwater uses and surface and groundwater rights. It is intended to support WSDOT's application for a temporary authorization to change the point of diversion, place of use, and purpose for the existing water right.

SR 410 Nile Valley Hydrogeologic Analysis

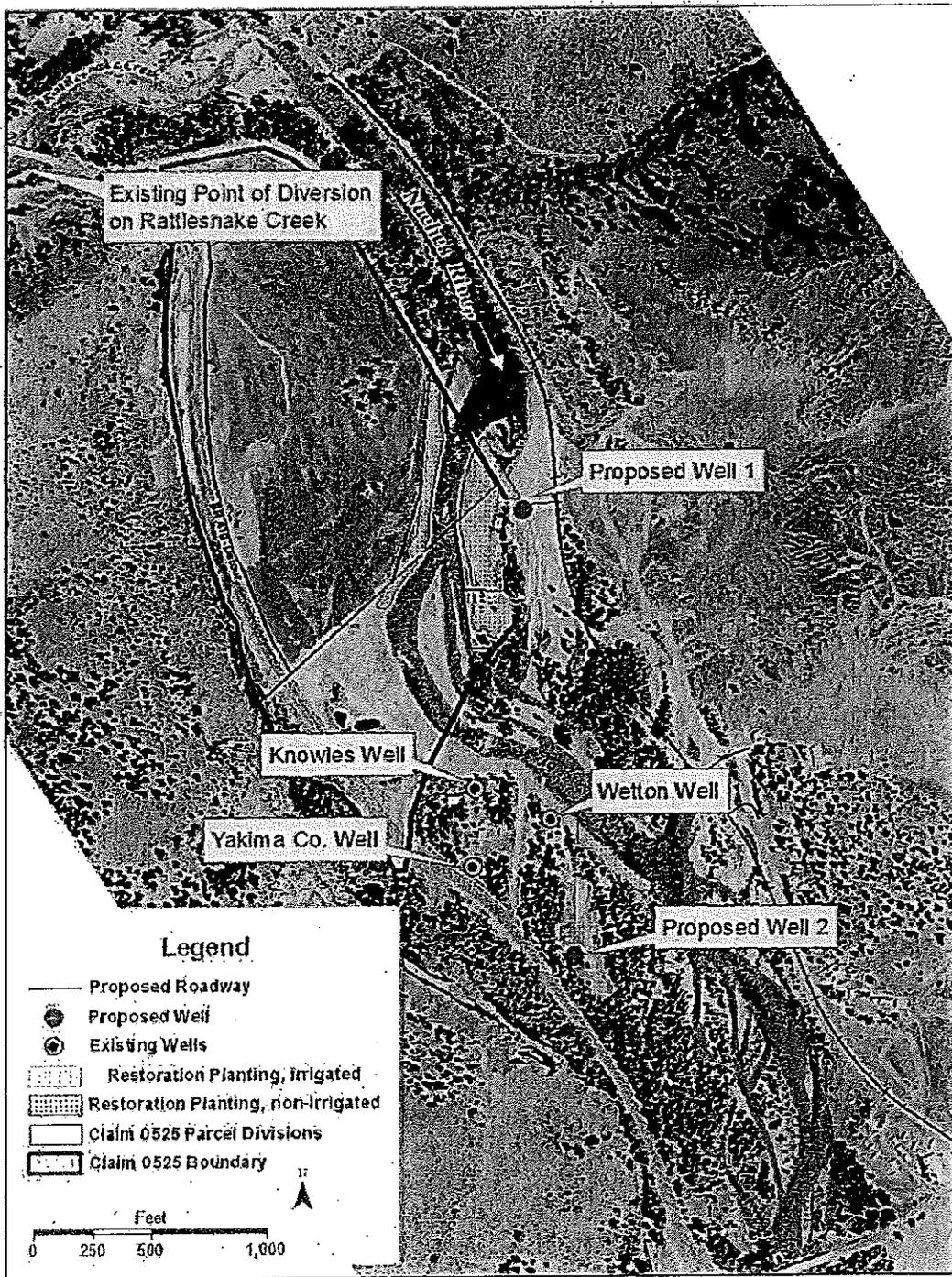


Figure 1. Locations of the proposed wells.

## SR 410 Nile Valley Hydrogeologic Analysis

### Hydrogeologic Setting

WSDOT has installed a number of monitoring wells and borings in the project area for wetland mitigation planning and geotechnical analysis as part of the emergency response to the October 2009 Nile Valley Landslide. This section uses this data to describe hydrogeologic conditions near the proposed wells. Appendix A contains bore logs for wells and piezometers near the proposed well locations.

#### *Stratigraphy of the aquifer tapped by the proposed wells*

The new wells would be drilled into a shallow unconfined aquifer in alluvial deposits on the Naches River valley floor. This alluvium is made up of poorly sorted sand and gravel deposited by glaciers and streams (Yakima County, 2006). In 2009 a massive slide of volcanic rock fell across SR 410 and blocked the Naches River. Yakima County subsequently relocated the river into a new channel that curves around the slide deposits. The slide deformed and uplifted areas of alluvium on the east side of the valley (near Well 1), but did not cover either of the proposed well sites.

The alluvium near proposed Well 1 is covered by Weirman sandy loam soil (USDA, 1985). These soils occur in areas with frequent flooding and channel migration, and contain stratified layers of permeable gravel and sand with minimal organic matter. Well 1 will be located near WSDOT piezometer H-11P-10. The bore log for this 15-foot piezometer shows silty gravel with sand down to a depth of 14 feet. This is underlain by poorly graded gravel with sand.

The west side of the valley near Well 2 is covered by Logy and Wenas silt loam soils that typically form on floodplains where velocities are lower. Well 2 will be located near WSDOT piezometer H-02P-11. The bore log for this 6-foot piezometer shows silty gravel near the surface underlain by well-graded gravel with sand.

The Wetton well is the closest domestic well to proposed Well 2. This bore log shows boulders, gravel, sand, and brown clay down to a depth of 50-feet. The log implies that the brown clay becomes more predominant below 11-feet depth, but does not describe the layering of these deposits in detail.

The bore log for a 60-foot well drilled by the North Yakima Conservation District (believed to be on behalf of Boyd Brown) shows more detail on the stratigraphy in the alluvial deposits on the west side of the valley. This well encountered gravel and sand near the surface that transitioned at 23-feet depth into layers of silt-bound sandy gravel and cobbles. The silt-bound layers were underlain by coarse sandy gravels and cobbles at 34-feet depth. The well casing was perforated between 34- and 60-feet depth to obtain water from this deep coarse layer.

#### *Seasonal water levels*

Figure 2 shows monthly water levels measured by WSDOT in piezometers located near the proposed wells. The depth to water at H-11P-10 near Well 1 ranged from 4.5 feet in June when Naches River flows were elevated by snowmelt to 11 feet at the end of the dry season. Depths to water at H-02P-11 near Well 2 followed a similar pattern but were much shallower, ranging from 2.3 to 4.5 feet.

## SR 410 Nile Valley Hydrogeologic Analysis

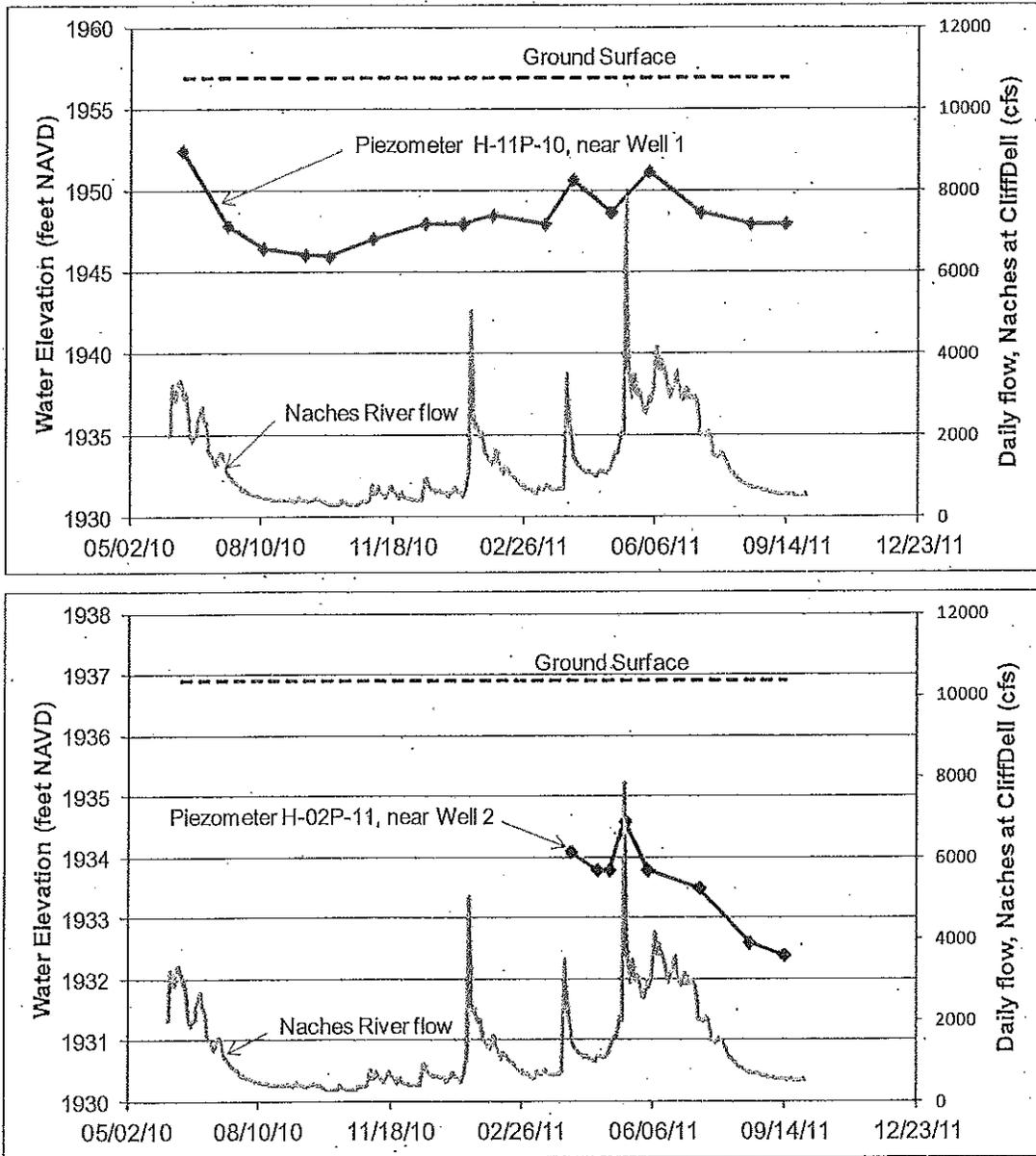


Figure 2. Water levels measured in piezometers near the proposed wells

### *Connectivity to the Naches River*

The shallow groundwater levels shown in Figure 2 closely track seasonal flow patterns recorded in the Naches River at CliffDell (USBR, 2011). Groundwater elevations were lowest at the end of the summer dry season when river flows were lowest. River and groundwater elevations rose in the fall and winter in response to rainstorms, and reached their maximum levels in the late spring when snowmelt from the upper watershed feeds the Naches River. This direct response of shallow groundwater to snowmelt-elevated flows indicates a high level of connectivity with surface flow in the Naches River.

### SR 410 Nile Valley Hydrogeologic Analysis

Figures 3 and 4 compare measured groundwater levels to river valley cross sections near the proposed wells. Minimum summer groundwater levels lie near the bottom of the adjacent river and side channels, while maximum spring levels rise to within a few feet of channel bankfull stage. This again points to a strong connection between groundwater levels and river flows.

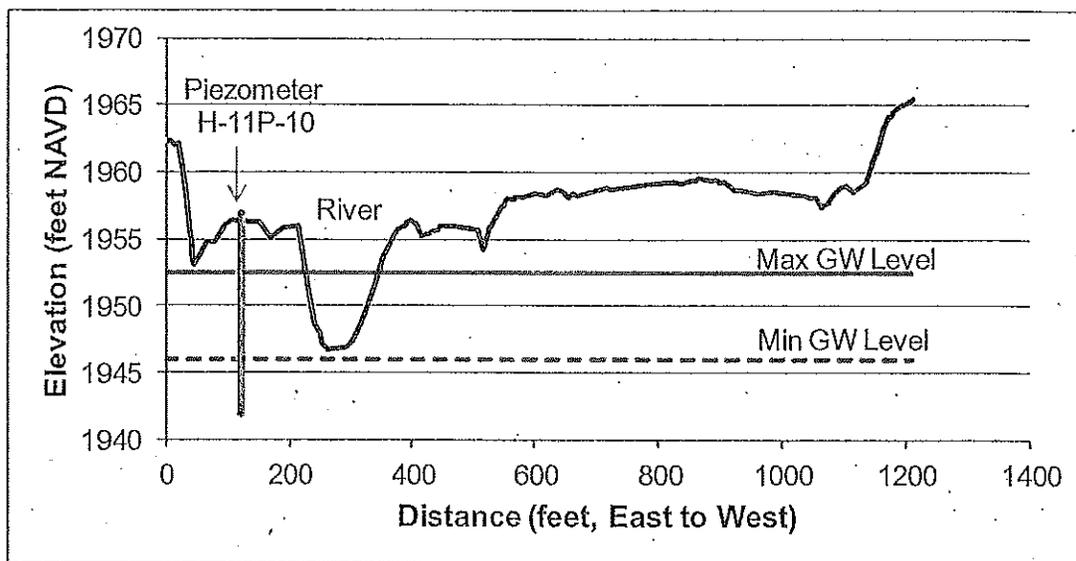


Figure 3. River cross section and groundwater levels near proposed Well 1

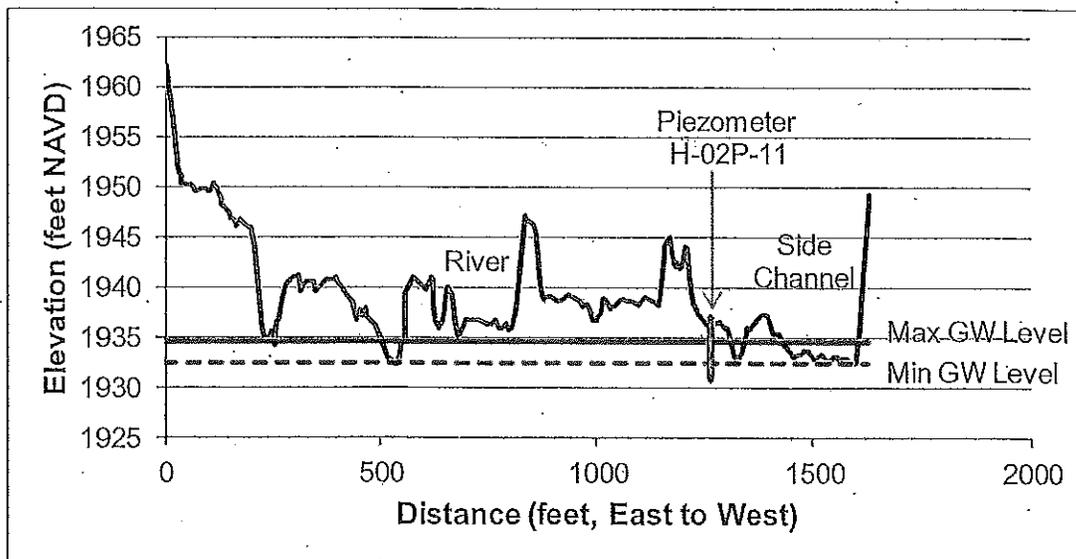


Figure 4. River cross section and groundwater levels near proposed Well 2

## SR 410 Nile Valley Hydrogeologic Analysis

### Impacts to Beneficial Uses

#### *Surface Water*

The analysis above demonstrates that the alluvial aquifer is strongly connected to surface flow in the Naches River. Some portion of the water pumped from the proposed wells will therefore be drawn from the river.

The point of diversion for the original surface water right is located on Rattlesnake Creek upstream of the proposed wells. Moving the point of diversion downstream would result in a net gain in flow in the lower reaches of Rattlesnake Creek and the Naches River upstream of the project area, and would have no impact on flows downstream. Water use for the proposed wells is anticipated to be substantially less than WSDOT's portion of the existing surface water right.

#### *Groundwater wells*

Table 1 lists all wells contained in the Department of Ecology's well log database in the area between Rattlesnake Creek and the Nile Road bridge (Washington State Department of Ecology, 2011). Figure 5 shows approximate locations based on listed quarter sections. Four of these wells are listed as decommissioned, most likely as part of emergency demolition after the landslide. This coincides with WSDOT's records regarding the number of homes demolished. Table 1 also does not include two wells that are not in the well log database but will be decommissioned by WSDOT (Figure 5). This has decreased demand from the alluvial aquifer.

There are no active wells identified on the east side of the Naches River valley floor near proposed Well 1. Drawdown from this well will therefore have no impact on existing groundwater users or wells.

Three wells are located near proposed Well 2 (Figure 1). The Wetton well is located about 580 feet to the north next to the Naches River. This unscreened well was constructed to draw water from the bottom of the 50-foot deep casing. The Knowles and Yakima County wells are located 820 and 520 feet respectively to the northwest. These two wells are not included in Ecology's well log database, and little is known about their construction.

Drawdown calculations were performed for Well 2 to examine the potential for interference with these wells (Appendix B). We assumed the alluvial aquifer is fully connected down to the depth of the Wetton well, and used a hydraulic conductivity of 165 ft/day (middle of the typical range for coarse alluvium). These are conservative assumptions, since it is likely that the deeper Wetton well is at least partially separated from the surface water table aquifer by silt or clay layers. At the end of a typical irrigation pumping cycle drawdown would be less than 0.1 feet at a distance of 200 feet from the well. Pumping from Well 2 would therefore not interfere with existing uses of nearby wells. Note that the Wetton well was approved as a three-party well to serve three lots that were created by a short plat. WSDOT has acquired two of the three lots served by this well.

Figure 6 shows the extent of acquisitions by WSDOT in response to the Nile Landslide. These have been acquired for the interim detour highway that will be turned back to Yakima County to maintain as a local access road, new river channel and the highway re-

## SR 410 Nile Valley Hydrogeologic Analysis

construction. These parcels are generally located between the existing highway and temporary detour, are mostly located within the Naches River floodplain, and will be restricted from future re-development.

### *Water Rights in the Project Area*

According to Ecology's records, WSDOT's acquisitions involved properties with other water right claims besides the Brown Claim 0525. These include Claim #1007 (Dexter), #1399 (Chandlee), #1577 and #1578 (Randall) for a total of 39-acre feet with priority dates of June 1892. The only other claim known to be active at the time of the landslide was #1650 (Dexter) for 65 acre-feet with a place of use east of SR 410; however this diversion was damaged by the landslide and has not been re-established. No groundwater rights were identified.

### *Potential for Impairment*

Based on the above, the installation of two wells and the short term temporary use for mitigation site irrigation will not impair existing groundwater use or surface and ground water rights identified in the area.

**Table 1: Inventory of existing wells located near the proposed wells**

Original Owner/Well ID	Parcel Number or Address	Type	Depth (feet)	Perforations (feet)	Static Water Depth (feet)	Status
Brown/171453	151502-32400	Irrigation	11	3 to 11	5	Drilled 2007, decommissioned 2009
Brown/ W242665		Irrigation	65			
Smith	8961 SR 410	Domestic	40	None	9	Drilled 1994
Hobbs	151502-33001	Domestic	23	None	9	Drilled 1977
N Yak Cons. Dist	151502-33404	Irrigation	60	34 to 60	11	Drilled 2008, decommissioned 2009
Milligan (Rose)	151502-32002	Domestic	30	None	12	Drilled 1976, decommissioned 2009
Milligan	151502-32002	Irrigation	21	None	9.5	Drilled 1976, no decommission filed
Davidson	151502-33006	Domestic	10	None	4	Decommissioned, 2009
Will	12420 SR 410	Domestic	50	None	10	Drilled 1986
Earl	151503-41401	Domestic	70	None	17	Drilled 2010
Sainsbury	151503-41406	Domestic	125	104 to 125	25	Drilled 2010
Skeath	150503-14002	Domestic	65	None	7	Drilled 2008
WSDOT only						
Wetton	622 Nile Road	Domestic	50	None	9	Drilled 1998
McDonald	11601 SR 410	Domestic	32	22 to 32	15	Drilled 1973
Yakima County	River nr bridge	Resource	7	6.5 to 7	Not listed	Drilled and decommissioned, 2004

# SR 410 Nile Valley Hydrogeologic Analysis

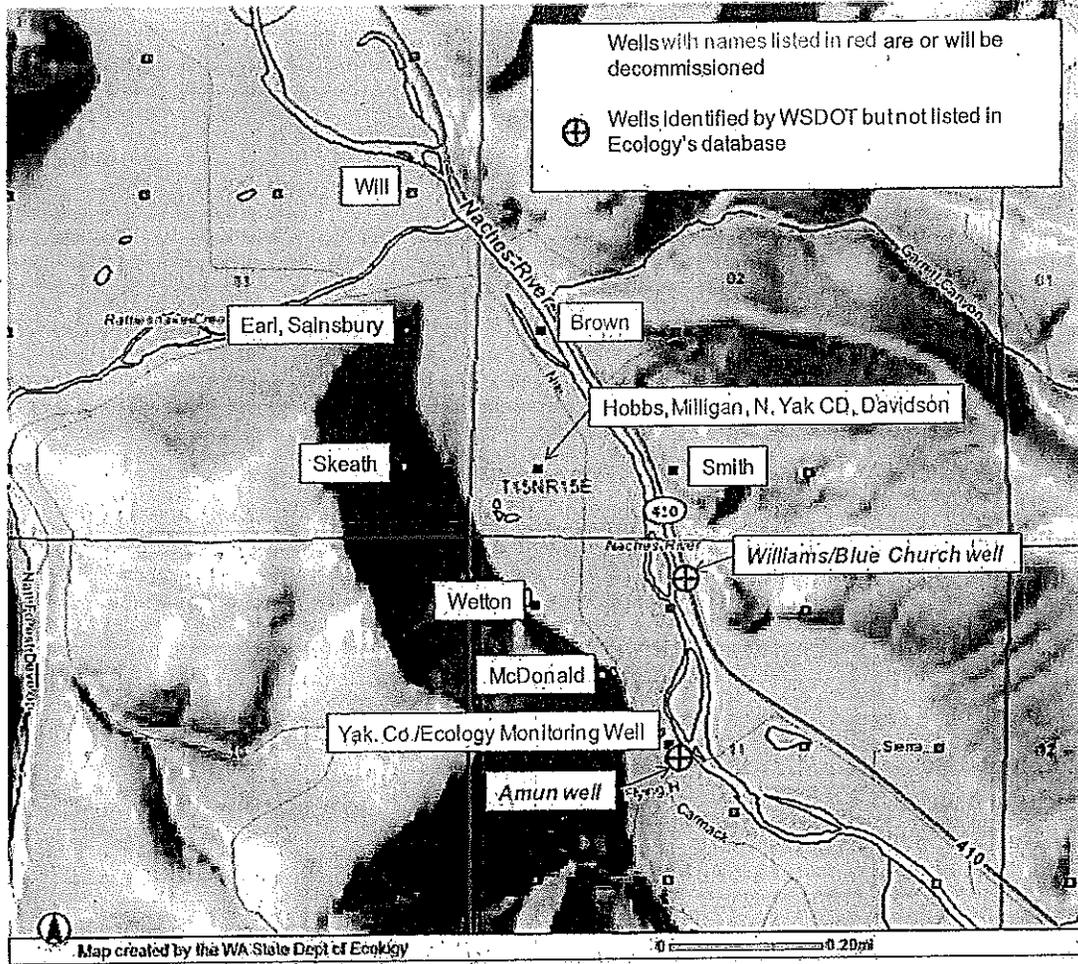


Figure 5. Approximate locations of nearby wells by quarter section

# SR 410 Nile Valley Hydrogeologic Analysis

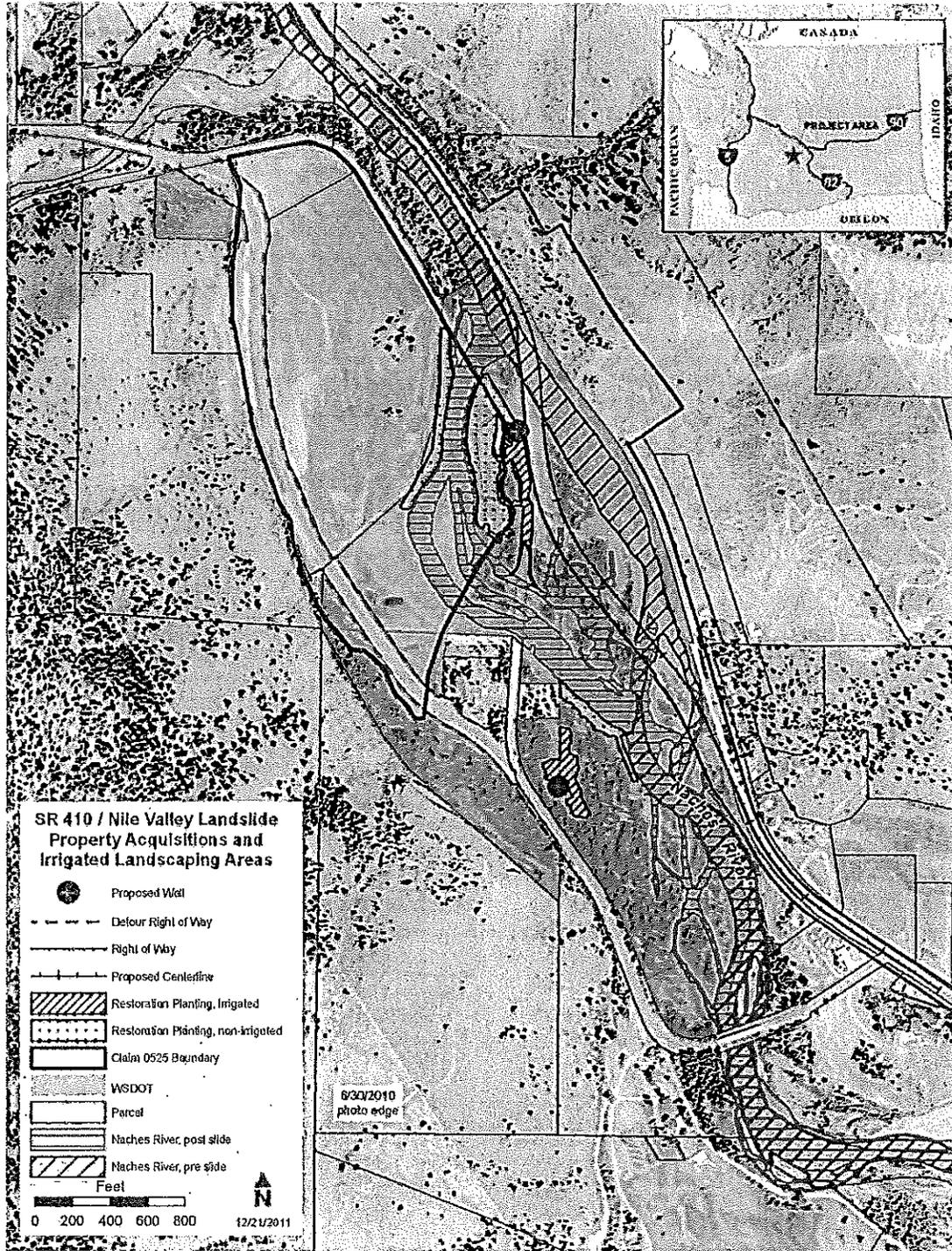


Figure 6. WSDOT property acquisitions in response to the Nile landslide

## SR 410 Nile Valley Hydrogeologic Analysis

### References

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- Washington State Department of Ecology, 2011. Washington State Well Log Viewer, <http://apps.ecy.wa.gov/welllog/index.asp>, accessed November 2011.
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- Yakima County, 2006. Comprehensive Flood Hazard Management Plan for the Naches River.
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- Freudenthal, Debi. 2011. WSDOT South Central Region Environmental Office. Personal communication. December 2011.



# SR 410 Nile Valley Hydrogeologic Analysis



Washington State  
Department of Transportation

## LOG OF TEST BORING

Best Case: R 69898

HOLES: H-02b-11

Sheet: 1 of 1

Date: Reitzel, Danny 10/27/12

Inspector: Anderson, Chad VIET

Job No: XL-3811 SR: 410 Elevation: ft

Project: Nile Valley Landslide - (Phase 2)

Site Address: SR 410 Vicinity of Nile Valley Road

Start: March 22, 2011 Complete: March 22, 2011 Well ID: DBS 685 (1" Plastic Well) Equipment: CME 850 (SC33) - AH

Station: \_\_\_\_\_ Offset: \_\_\_\_\_ Road Sta: 4 (feet) Method: Wet-Holey

Mapping: \_\_\_\_\_ Editing: \_\_\_\_\_ Collected by: Region Survey Crew Datum: State Plane South

County: Yakima Sub-section: NV114 of NV12 Section: 1E Range: 15 EWM Township: 1S

Depth (ft)	Elevation (ft)	Soils	Penetration (SPT) (ft)			Borehole (ft) and/or HCU (ft)	SPT Type	SPT Value (blows)	Lab Tests	Description of Material	Cross-section	Remarks
			20	40	60							
6												
8												
10												
16												
18												
20												
24												
26												
30												
32												
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36												
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84												
86												
88												
90												
92												
94												
96												
98												
100												

End of test hole boring at 6 ft below ground elevation.  
 This is a summary Log of Test Boring.  
 Soil Rock descriptions are derived from visual field  
 observations and laboratory test data.  
 Note: RER = SPT Refusal

SR 410 Nile Valley Hydrogeologic Analysis

68023



File Original and First Copy with Department of Ecology  
Second Copy - Owner's Copy  
Third Copy - Driller's Copy

**WATER WELL REPORT**

STATE OF WASHINGTON

Water Right Permit No.

Start Card No. AREG-093

UNIQUE WELL I.D. # W105334

(1) OWNER: Name Kelly Wetton Address 22206 S.E. 424th. St., Enumclaw

(2) LOCATION OF WELL: County Yakima NW 1/4 NW 1/4 Sec 11 T 15 N R 15 W

(2a) STREET ADDRESS OF WELL (or nearest address) 622 Nile Rd.

(3) PROPOSED USE:  Domestic  Industrial  Municipal   
 Irrigation  Test Well  Other   
 DeWater  Rotary  Jetted

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of layers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of stratum.

MATERIAL	FROM	TO
Large Boulders & Small Boulders & Large Gravel & Br. Sand & Br. Clay	0	11
Large Boulders & Small Boulders & Large Gravel & Br. Clay & Br. Sand & Water	11	50

(4) TYPE OF WORK: Owner's number of well (if more than one)  
Abandoned  New well  Deepened  Reconditioned   
Method: Dug  Cable  Rotary   
Bored  Driven  Jetted

(5) DIMENSIONS: Diameter of well 6 inches.  
Drilled 50 feet. Depth of completed well 50 ft.

(6) CONSTRUCTION DETAILS:  
Casing installed: 6 ft. Diam. from +1 ft. to 50 ft.  
Welded  Liner installed  Threaded   
Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Perforations: Yes  No   
Type of perforator used \_\_\_\_\_  
SIZE of perforations \_\_\_\_\_ in. by \_\_\_\_\_ in.  
\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Screens: Yes  No   
Manufacturer's Name \_\_\_\_\_  
Type \_\_\_\_\_ Model No. \_\_\_\_\_  
Diam. Slot size \_\_\_\_\_ from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Diam. Slot size \_\_\_\_\_ from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Gravel packed: Yes  No  Size of gravel \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Surface seal: Yes  No  To what depth? 18 ft.  
Material used in seal Bentonite  
Did any strata contain unusable water? Yes  No   
Type of water \_\_\_\_\_ Depth of strata \_\_\_\_\_  
Method of sealing strata of \_\_\_\_\_

(7) PUMP: Manufacturer's Name \_\_\_\_\_  
Type \_\_\_\_\_ H P \_\_\_\_\_

(8) WATER LEVELS: Land-surface elevation 1920  
Static level 9 ft. below top of well Date 11-16-98  
Artesian pressure \_\_\_\_\_ lb. per square inch Date \_\_\_\_\_  
Artesian water is controlled by \_\_\_\_\_ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level  
Was a pump test made? Yes  No  If yes, by whom? \_\_\_\_\_  
Yield: \_\_\_\_\_ gal/min with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs

Recovery data (time taken at zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test \_\_\_\_\_  
Baker test \_\_\_\_\_ gal/min with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
Artest \_\_\_\_\_ gal/min with stem set at \_\_\_\_\_ ft by \_\_\_\_\_ hrs.  
Artesian flow \_\_\_\_\_ g.p.m. Date 11-16-98  
Temperature of water 53 Was a chemical analysis made? Yes  No

Work Started 11-13-98, 19 Completed 11-16-98, 19

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME **OASIS DRILLING**  
2017 S. 16th Ave  
Address Union Gap, WA 98903  
(Signed) [Signature] License No. 1435

Contractor's Registration No. OASISD\*072J9 Date 11-16-98, 19

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resource Program at (206) 407-6600. The TDD number is (206) 407-6006.

# SR 410 Nile Valley Hydrogeologic Analysis



## WATER WELL REPORT

Original & 1<sup>st</sup> copy - Ecology, 2<sup>nd</sup> copy - owner, 3<sup>rd</sup> copy - driller

Construction/Decommission ("*x*" in circle)

Construction  
 Decommission **ORIGINAL INSTALLATION** 3a1913  
*Notice of Intent Number*

**PROPOSED USE:**  DeWater  Irrigation  Domestic  Industrial  Municipal  Test Well  Other

**TYPE OF WORK:** Owner's number of well (if more than one) \_\_\_\_\_  
 New well  Reconditioned *Method:*  Aug  Bored  Driven  
 Deepened  Cable  Rotary  Jetted

**DIMENSIONS:** Diameter of well 8 inches, drilled 60 ft.  
 Depth of completed well 60 ft.

**CONSTRUCTION DETAILS:**  
 Casing  Welded 8" Diam. from +2 ft. to 60 ft.  
 Installed:  Liner installed \_\_\_\_\_ Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 Threaded \_\_\_\_\_ Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Perforations:  Yes  No  
 Type of perforator used AIR PERFORATOR

SIZE of perforations 2 in. by 3 in. and no. of perforations 80 from 34 ft. to 60 ft.

Screens:  Yes  No  K-Pac Location \_\_\_\_\_  
 Manufacturer's Name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Gravel/Filler packed:  Yes  No Size of gravel/sand \_\_\_\_\_  
 Materials placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Surface Seal:  Yes  No To what depth? 20 ft.  
 Material used in seal: BENTONITE CHIPS  
 Did any strata contain unusable water?  Yes  No  
 Type of water? \_\_\_\_\_ Depth of strata \_\_\_\_\_  
 Method of sealing strata off \_\_\_\_\_

PUMP: Manufacturer's Name \_\_\_\_\_  
 Type \_\_\_\_\_ H.P. \_\_\_\_\_

**WATER LEVELS:** Land-surface elevation above mean sea level \_\_\_\_\_ ft.  
 Static level 11 ft. below top of well Date 9/24/2008  
 Artesian pressure \_\_\_\_\_ lbs. per square inch Date \_\_\_\_\_  
 Artesian water is controlled by \_\_\_\_\_ (cap, valve, etc.)

**WELL TESTS:** Drawdown is amount water level is lowered below static level  
 Was a pump test made?  Yes  No If yes, by whom? \_\_\_\_\_  
 Yield: \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
 Yield: \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
 Yield: \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.

*Recovery data (time taken at 20% when pump turned off) (water level measured from well top to water level)*

Time	Water Level	Time	Water Level	Time	Water Level

Date of test: \_\_\_\_\_  
 Baller test \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
 At least 100+ gal./min. with 1/2 in. set at 45 ft. for 4 hrs.  
 Artesian flow \_\_\_\_\_ g.p.m. Date \_\_\_\_\_  
 Temperature of water \_\_\_\_\_ Was a chemical analysis made?  Yes  No

### CURRENT

Notice of Intent No. WE09046  
 Unique Ecology Well ID Tag No. BAC 339  
 Water Right Permit No. C54-00525CTCL  
 Property Owner Name NORTH YAKIMA CONSERVATION DISTRICT  
 Well Street Address NILE RD  
 City NACHES County YAKIMA N  
 Location SW1/4-1/4 SW1/4 Sec 29 Twn 15 R 15E EWT   
 (S, L, R SHI REQUIRED) 02 Or WWT   
 Lat/Long Lat Deg \_\_\_\_\_ Lat Min/Sec \_\_\_\_\_  
 Long Deg \_\_\_\_\_ Long Min/Sec \_\_\_\_\_  
 Tax Parcel No. (Required) 15150233404

**CONSTRUCTION OR DECOMMISSION PROCEDURE**  
 Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
BROWN SANDY LOAM	0	2
BROWN GRAVELLY FINE TO MEDIUM	2	
SAND WITH COBBLES		18
BROWN SANDY GRAVEL TIGHT,	18	
MOIST		23
BROWN SILT BOUND MEDIUM TO	23	
CORSE SANDY GRAVEL WITH		30
COBBLES, LOOSE WET		30
GRAY TIGHT SILT BOUND SANDY	30	
GRAVEL, DRY		34
BROWN LOOSE MEDIUM TO CORSE	34	
SANDY GRAVEL TO COBBLES,		
WATER		60

**RECEIVED**  
**NOV 10 2008**  
 Washington State  
 Department of Ecology

Start Date 9/22/2008 Completed Date 9/24/2008

**WELL CONSTRUCTION CERTIFICATION:** I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller  Engineer  Trainee Name (print) BRANDON HICKS  
 Driller/Engineer/Trainee Signature \_\_\_\_\_  
 Driller or Trainee License No. 2785  
 IF TRAINEE: Driller's License No. \_\_\_\_\_  
 Driller's Signature: \_\_\_\_\_  
 Drilling Company ARCADIA DRILLING INC.  
 Address P.O. BOX 1790  
 City, State, Zip SHELTON WA, 98584  
 Contractor's Registration No. ACADD1098K1 Date 9/29/2008

SR 410 Nile Valley Hydrogeologic Analysis

Appendix B – Example Drawdown Calculation for Well 2

Theis Solution for drawdown by a pump near a Stream									
Theis equation:		Drawdown = $[Q/(4\pi T)] * W(u)$							
		$u = (r^2 S)/(4Tt)$							
		$W(u) = -0.5772 - \ln u + u - u^2/2*2! + u^3/3*3! - u^4/4*4! + u^5/5*5! \dots$							
T is transmissivity, = Hydraulic Conductivity times aquifer thickness									
S is storativity, or specific yield in unconfined aquifers									
t is time, r is distance of drawdown from well, and Q is pumping rate									
Streams can be treated as constant head boundary by putting an image recharge well on opposite side of stream									
		$r_{image} = 2 * (\text{distance of well from stream}) - r$							
		Drawdown = $[Q/(4\pi T)] * [W(u) - W(u_{image})]$							
		Steady-state drawdown = $[Q/(2\pi T)] * \ln(r_{image}/r)$							
Input Data: in yellow									
all other values calculated									
Location for drawdown		260 feet from naches							
Pump location		460 feet from naches river							
r for drawdown calculation		200 feet from well							
$r_{image}$		720 feet from image well							
pump rate		60 gallons/minute, maximum of estimated range per well							
		11551.68 ft <sup>3</sup> /day							
		0.13 cfs							
Hydraulic conductivity		185 ft/day, mid range for sand and gravel from 30 to 300							
Aquifer Thickness		50 feet, depth of Wetton well							
Transmissivity		8250 ft <sup>2</sup> /day							
Specific Yield		0.25 value for fine gravel							
Time (hrs)	Time (days)	u	Wu	$u_{image}$	$Wu_{image}$	$x/\sqrt{4TtS}$	Drawdown with stream (ft)	Drawdown (ft) without stream	Flow pumped from stream (cfs)
12	0.500	0.606060606	0.448896	7.854545455	0.000045	1.79054757	0.05	0.05	0.00
24	1.000	0.303030303	0.898258	3.927272727	0.0043	1.26610833	0.10	0.10	0.01
48	2.000	0.151515152	1.455833	1.963636364	0.051446	0.89527379	0.16	0.16	0.03
168	7.000	0.043290043	2.605459	0.561038961	0.491977	0.47854397	0.24	0.29	0.07
Long Time	1.00E+05	3.0303E-06	12.12965	3.92727E-05	9.56782	0.00400379	0.29	1.35	0.13
Steady-State							0.29		

CLAIMANT NAME: WA State Dept of Transportation COURT CLAIM NO. 00525

Certificate Number: S4-85133-J

Subbasin: 16 Upper Naches

Source: Rattlesnake Creek

Use: Irrigation of 3 acres

Period of Use: April 1 through October 31

Quantity: .06 cubic foot per second, 9 acre-feet per year, 26.9 gpm

Priority Date: April 1, 1885

Point of Diversion: 300 feet south and 1050 feet east of the center of Section 3, within the NW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 3, T. 15 N., R. 15 E.W.M.

Place of Use: That portion of the hereinafter described Parcel A, lying northeasterly of a line beginning at the northwest corner of Section 11, T., 15 N., R. 15 E.W.M.; thence S 30° 05' 57" E 669.44 feet; thence S 38° 35' 19" E 200.91 feet; thence S 49° 37' 24" E 1061.92 feet, more or less, to a point on the east line of the W $\frac{1}{2}$ NW $\frac{1}{4}$  of said Section 11 and the end of said line description.

Parcel A: The W $\frac{1}{2}$ NW $\frac{1}{4}$  of Section 11, T. 15 N., R. 15 E.W.M.; Except a tract of land lying in the W $\frac{1}{2}$ NW $\frac{1}{4}$  of Section 11, lying north and east of the following described line: Beginning at a point on the north line of said Section 11, and the west right-of-way line of State Highway No. 5, as existed on August 16, 1924, which point is 1581 feet west of the north quarter corner of said Section 11; running thence S 3° 13' E along this westerly right-of-way line 490 feet, more or less, to the beginning of a 10° curve toward the east, the central angle of which is 40° 36'; thence following the arc of this curve on the westerly right-of-way line 427.3 feet, more or less, to the point of tangency with a line bearing S 37° 24' E along this right-of-way line a distance of 153 feet, more or less, to the east line of the W $\frac{1}{2}$ NW $\frac{1}{4}$  of said Section 11; thence south along this subdivision line 264 feet, more or less, to the base of a rock cliff, locally known as "Eagle Rock"; and the true point of beginning of the following described line; thence following the base of said rock cliff, in a northwesterly direction 835 feet, more or less, to the westerly bank of a running stream, the bearing of which is approximately north and south; thence following this westerly bank 643.5 feet, more or less, to a point on the north line of Section 11, 363 feet west of the point of beginning and the terminus of the herein described line, situated in Yakima Co., WA. The lands herein described contain an area of 9.04 acres, more or less; And as indicated in Attachment 1 and further clarified by Attachment 2 and made a part hereof.

CLAIMANT NAME: Donald L. Dexter  
& Debra A. Dexter COURT CLAIM NO. 01007

Certificate Number: S4-83388-J

Subbasin: 16 Upper Naches

Source: Naches River

Use: Irrigation of 2 acres

Period of Use: April 1 through October 31

Quantity: 0.04 cubic foot per second; 6 acre-feet per year for  
irrigation, 0.012 cubic foot per second for conveyance

Priority Date: June 30, 1892

Point of Diversion: 675 feet south and 575 feet east of the west quarter corner  
of Section 2, within the NW $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 2, T. 15 N.,  
R. 15 E.W.M.

Place of Use: That portion of the SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 2, T. 15 N.,  
R. 15 E.W.M. described as follows: Beginning at the  
intersection of the south line of said section and the  
westerly right of way of the county road (Nile Road);  
thence northerly along said right of way 534 feet; thence  
west 75 feet more or less to the west bank of a running  
stream (an irrigation ditch); thence southwesterly along  
said stream bank 545 feet more or less to the south line of  
said section; thence east 382 feet to the point of  
beginning.



Nile Valley Landslide  
(debris covers SR410 and  
Naches River channel)

Brown Claim #00525

**Temp. Well**

Dexter Claim #1007

410

**Section 2**

**Section 11**

**Temp Well**

410

**Legend**

- Sections
- CL 00525 POU\_outline
- Planted Area - POU
- Rivers & Streams
- Parcels
- Restored river channel

**Description**

- WSDOT owned
- WSDOT owned



6/30/2010 Photo



Nile Valley Landslide / SR 410 Restoration  
Water Right Temp. Permit Application  
Feb. 2015